

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
William D. Morgan

Serial No.: 08/828,330

Filed: March 28, 1997

For: INSULATED REMOVABLE POND
COVER

Group Art Unit: 1723

Examiner: Robert J. Canfield

Atty. Dkt. No.: IAEC:007USR1/MTG

37 C.F.R. § 1.132 DECLARATION OF MICHAEL A. MORGAN

I, Michael A. Morgan, declare as follows:

1. I am a founder and principle owner of Industrial & Environmental Concepts (IEC), and have been for 17 years. IEC is the owner of the present patent application. One of my main responsibilities during this period has been the design, from concept to installation, of floating covers systems for water treatment lagoons and tanks. Prior to founding IEC, I was employed with a geomembrane manufacturer. In total, I have 18 years of experience designing and building cover systems for wastewater-filled ponds. I received a BS in Civil & Environmental Engineering from the University of Wisconsin in 1989.

2. I have reviewed the Patent Office's arguments on pages 9 and 10 of its May 11, 2009 Office Action. I disagree with them, and this declaration explains why.

3. Claims 5, 50 and 55 all specify "at least two sealed panels." Claim 56 specifies that insulation material is "sealed inside each panel." Claims 60 and 63 each specifies that "each panel includes insulation material sealed inside, but not completely filling, a void in the panel."

4. The original patent application, which was filed October 22, 1993, explains that "[t]he primary advantage of the invention is that it is removeable, thus allowing the pond to be dredged

and re-used.” 3rd paragraph of first page (attached as Appendix A); same at column 1, lines 18-20 of the ‘549 patent (attached as Appendix B). The original patent application states that “[e]ach casing 1 is filled with a layer of insulation 3 and then sealed at either end and along either side by a fusion weld 4.” App. A at last full paragraph on page 1; App. B at column 1, lines 37-39. Then, the first full sentence on page 2 of the original patent application states, “Each casing 1 is provided with a plurality of grommets 5 at either end and along either side, positioned outside of the welded area so as not to break the seal.” App. A; App. B at column 2, lines 1-4.

5. At the time the original patent application was filed, someone having even minimal experience in the field of wastewater covers would understand from reading the original patent application—and in particular the sentences cited above—that the sealed panels stated in the claims refer to panels that have been sealed to be watertight. Such a person would have readily understood that it would be very difficult to meet the “primary advantage” of our invention (removing and reusing our linked panels in order to dredge a wastewater pond) if the panels were not sealed watertight because wastewater would get into the panels as they were being moved around over the wastewater pond, making them heavier and more difficult to move. The sentence that explains that the grommets described in the application are positioned outside the welded area so as not to break the seal makes this even more clear: no one in this industry would be concerned about breaking a “seal” that was intermittent or otherwise not watertight. So, the only way that sentence makes sense is in reference to a seal that is watertight. Therefore, that is how anyone in this field would have read and understood the claimed seals: as watertight.

6. Furthermore, claims 50, 56, 60 and 63 all specify insulation material inside each sealed panel. The advantage specified right after removability in the original patent application is insulative (“[a]nother advantage is that the insulation results in heat being retained in the pond”),

and it would be impaired or eliminated if the seals were not watertight because the wastewater would get into the panels and fill the voids in the insulation, rendering them no longer effective as an insulator. Anyone in this industry would have understood and appreciated this fact at the time the original patent application was filed.

7. Finally, the Patent Office states: "Also note that Walker [U.S. Patent No. 4,590,714] recites 'sealed' at column 3, line 19." Page 9 of the Office Action. However, this "sealed" language in Walker does not pertain to Walker's tarpaulin itself being sealed. Instead, it pertains to pertains to the membranes of the tarpaulin being sealed:

A first membrane of extremely tough and weather resistant material such as 5 X 10 woven and sealed highly oriented high density polyethylene material of notorious type is coated with an ultraviolet resistant material of some dark color.

This statement is irrelevant to the seals recited in our claims.

8. I understand that the Patent Office considers our claim 71 as being obvious over the Walker patent in combination with the Brock patent (U.S. Patent No. 4,038,447) plus statements from the background of the original patent application. The Patent Office explains why on page 5 of the Office Action:

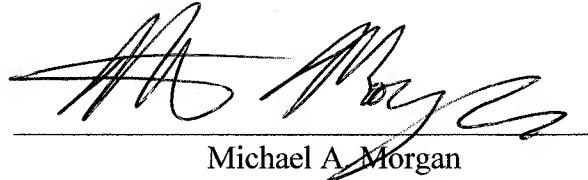
It would have been obvious at the time of the invention to one having ordinary skill in the art that the geomembrane covering system taught by Walker as modified by Brock could have been used to cover wastewater as Walker teaches that his system is designed to cover and protect an underlying structure or material and the use of geomembrane covering systems over wastewater was known at the time of the invention. There would have been no unexpected or unpredictable result achieved from using the known covering system of Walker as modified by Brock in an environment where it was known to be desirable to provide a cover. One of ordinary skill in the art would have recognized that the covering system of Walker could have been placed in direct contact over wastewater.

The problem with this reasoning is that if someone were to place the tarpaulin of Walker—with stitched seams or with intermittently-welded seams (as disclosed in Brock)—over wastewater, the tarpaulin would take on wastewater and become heavy and difficult to move, and the wastewater would fill the voids in the insulation, rendering the tarpaulin no longer effective as an insulator. Therefore, someone who works in this industry would not do (or think to do) what the Patent Office has proposed.

9. All statements made of my own knowledge are true and all statements made on information are believed to be true, and statements in this document were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under § 1001 of Title 18 of the United States Code.

8/24/09

Date



A handwritten signature in black ink, appearing to read "M. Morgan".

Michael A. Morgan

APPENDIX A

2 Feb 4
INSULATED REMOVEABLE POND COVER

William D. Morgan, 6009 Chapel Dr., Minneapolis, Minnesota 55439.

SUMMARY AND BACKGROUND OF THE INVENTION:

Man-made, usually rectangular, settling ponds are used for holding sewage and industrial wastes. These ponds are usually covered by a large one-piece geomembrane which has gas and water collection systems and is usually not insulated. These pond covers are laid on-site and secured by an anchoring trench. Because of their size, they are difficult to remove.

The present invention is an insulated removeable pond cover which is made in sections which are held together by means of a series of grommets and cables. The cables are secured to a series of concrete deadheads.

The primary advantage of the invention is that it is removeable, thus allowing the pond to be dredged and re-used. Another advantage is that the insulation results in heat being retained in the pond, thus speeding biodegradation of organic material.

DESCRIPTION OF THE DRAWINGS:

Fig. 1 is a side detail view of two of the panels.

Fig. 2 is a top perspective view showing two full panels and parts of four other panels, starting from one edge of the pond cover on the left.

DESCRIPTION OF THE INVENTION:

The pond cover comprises a plurality of generally rectangular casings or panel units 1 linked together. The number and size of the casings 1 will vary depending upon the size of the pond to be covered, and the casings 1 are arranged in as many rows as are needed. Generally each casing 1 will be about seven and one-half feet wide and approximately forty feet long. Each casing 1 is filled with a layer of insulation 3 and then sealed at either end and along either side by a fusion weld 4. The casings 1 are made of geomembrane (a high density polyethylene material).

Adjacent casings 1 are linked together in overlapping spaced relationship

by means of a grommet and cable system. Each casing 1 is provided with a plurality of grommets 5 at either end and along either side, positioned outside of the welded area 4 so as not to break the seal. The total number of grommets 5 per casing 1 can vary. After the grommets 5 of adjacent casings 1 are lined up in vertical spaced relationship to each other, a cable 7 is passed through the openings of the grommets 5, is formed into a loop above the panels 1 and is secured in position by a cable clamp 11 attached to the cable 7 beneath the casings 1. A heavy tie-down cable 12 is then passed through all the loops of the cables 7 in the row and is secured at either end to an anchor post such as a concrete deadhead, in a conventional manner such as tying the cable 12 to a rod with a nut at either end and securing the cable 12 with a cable clamp. If wind getting underneath the cover is a problem, additional cables can be passed through the cable loops 7 perpendicular to cable 12 at either end and in the middle of the series of casings 1.

Once the pond cover has been secured in position, it will float upon the liquid in the pond, and it can be removed when the pond needs to be dredged.

I claim:

1. For a pond cover comprising a plurality of panel units linked together, means for insulating said pond cover and linking said panel units together and securing said pond cover in position on the pond, said means comprising:
a panel unit structure wherein said panel unit is filled internally with a layer of insulation and is sealed at either end and along either side by welding; and securing means whereby each of said panel units is provided with grommets disposed at said sealed ends thereof, and each of said panel units is linked in vertical spaced relationship to adjacent panel units by means of a cable which is disposed through said grommet and formed into a loop projecting above said panel units, and by means of a second, heavy cable which is disposed through the entire row of said loops and is anchored at either end to an anchoring means.

ABSTRACT OF THE DISCLOSURE

08/139,835

An insulated removable pond cover for settling ponds. The pond cover comprises a plurality of sealed panel units containing insulation. The panel units are linked together by means of a system of cables which pass through grommets in the panel units.

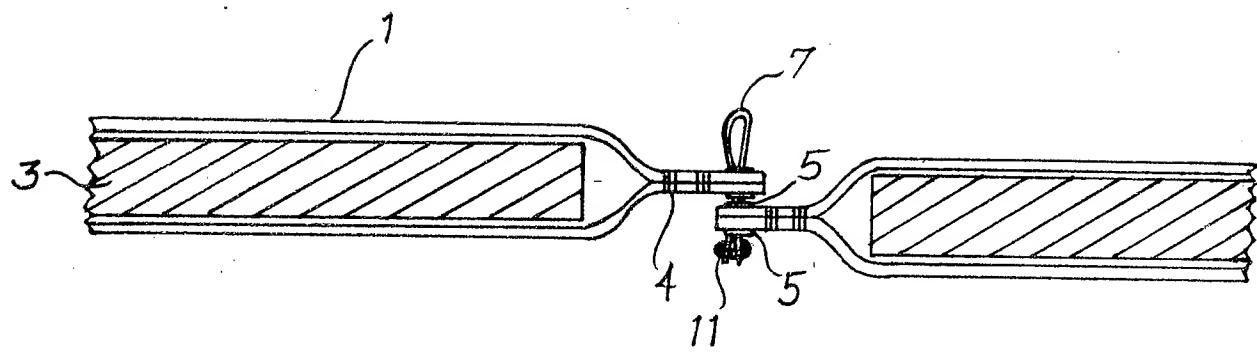


FIG. 1.

03/19835

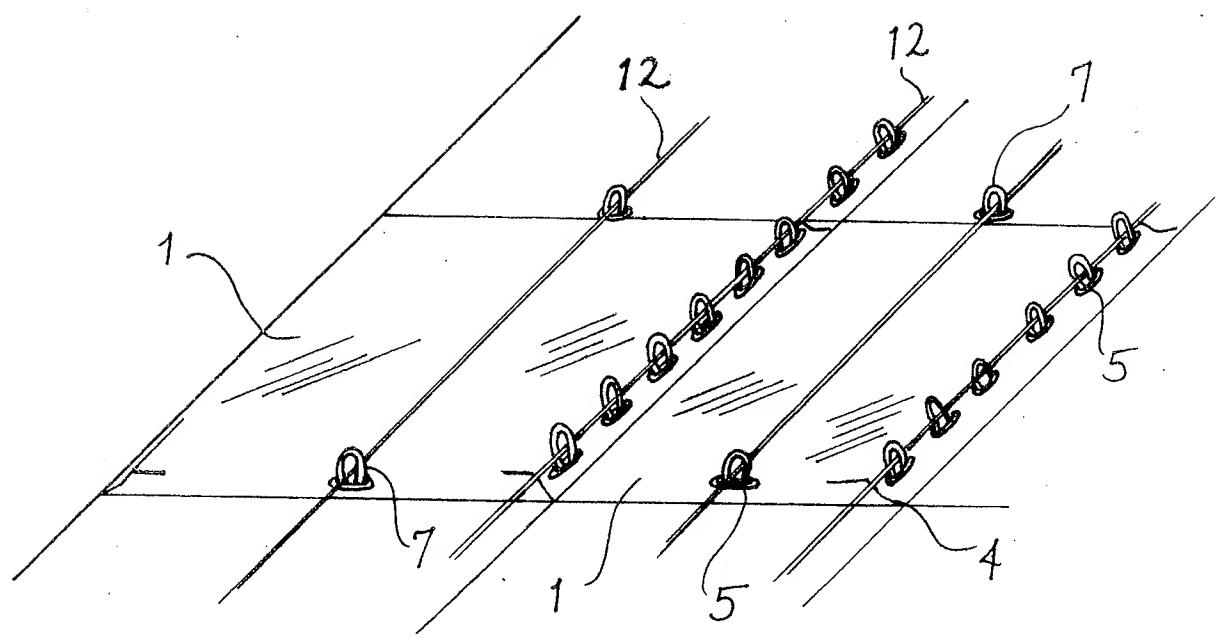


FIG. 2.

APPENDIX B



US005400549A

United States Patent [19]**Morgan**[11] **Patent Number:** **5,400,549**[45] **Date of Patent:** **Mar. 28, 1995**[54] **INSULATED REMOVABLE POND COVER**[76] Inventor: **William D. Morgan**, 6009 Chapel Dr., Minneapolis, Minn. 55439[21] Appl. No.: **139,835**[22] Filed: **Oct. 22, 1993**[51] Int. Cl.⁶ **E04B 7/00**[52] U.S. Cl. **52/23; 52/5;
4/498; 160/231.1**[58] Field of Search **52/23, 5, 408, 409;
4/498, 503; 160/84.1 E, 231.1**[56] **References Cited****U.S. PATENT DOCUMENTS**

2,952,024	9/1960	Bartolucci	.....	4/503
3,683,428	8/1972	Morris	.....	4/498
3,862,876	1/1975	Graves	.....	52/23 X
4,135,257	1/1979	Löf	.....	4/498

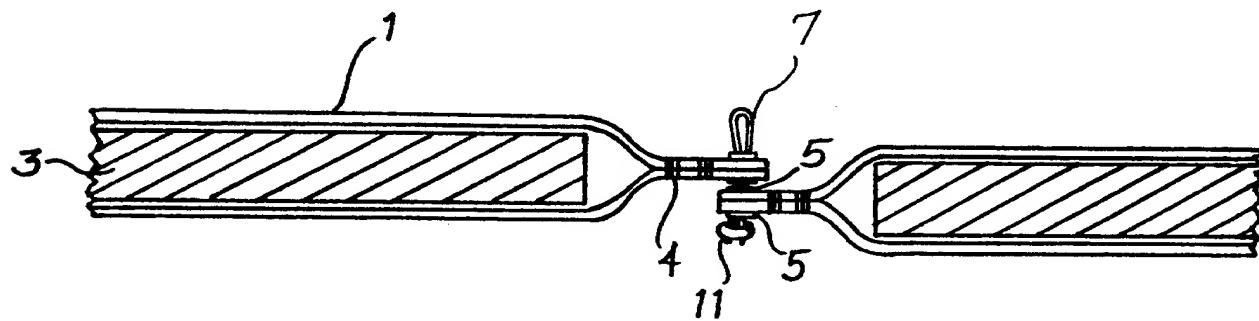
4,137,575	2/1979	Klaffke et al.	.....	4/498
4,169,050	9/1979	Serfling et al.	.....	210/12
4,192,025	3/1980	Hinsperger	.....	4/498
5,067,182	11/1991	Koelsch	.....	4/498

FOREIGN PATENT DOCUMENTS

2004656 8/1971 Germany 4/498

Primary Examiner—Carl D. Friedman*Assistant Examiner*—Kien Nguyen*Attorney, Agent, or Firm*—Thomas B. Tate[57] **ABSTRACT**

An insulated removable pond cover for settling ponds. The pond cover comprises a plurality of sealed panel units containing insulation. The panel units are linked together by means of a system of cables which pass through grommets in the panel units.

1 Claim, 2 Drawing Sheets

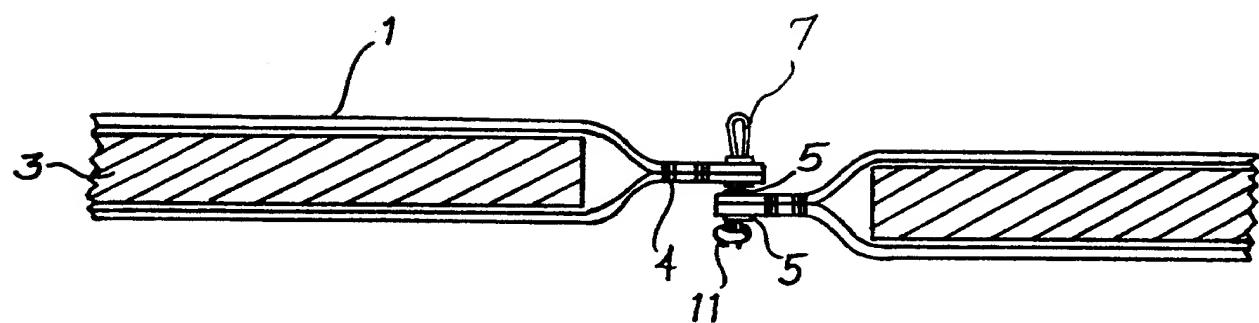


FIG. 1.

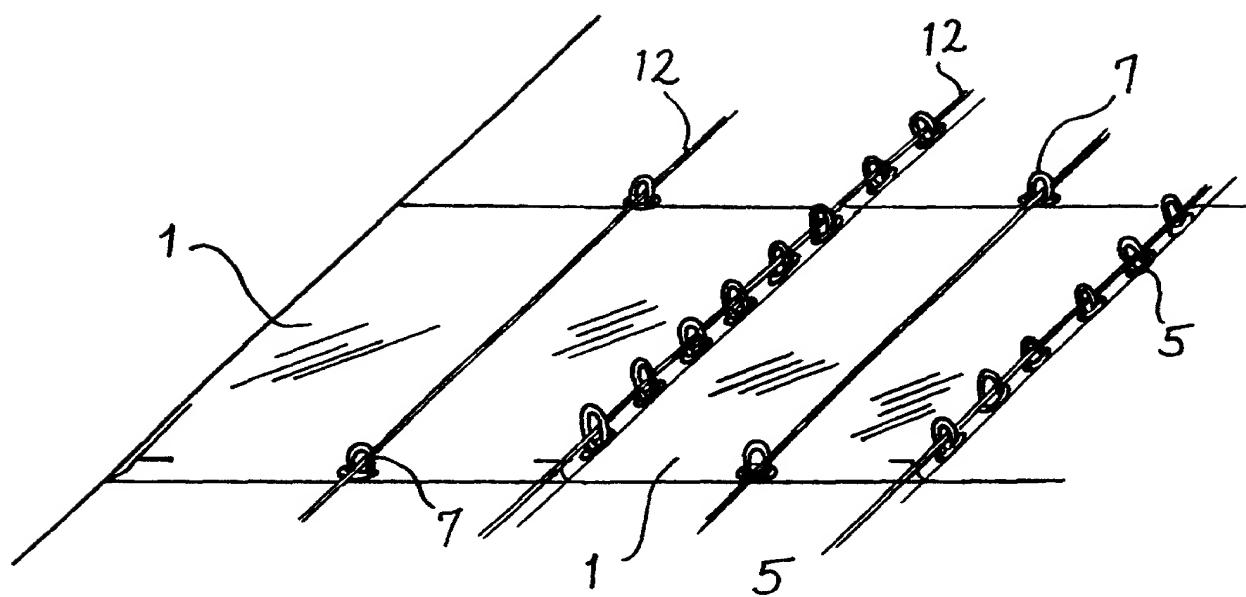


FIG. 2.

INSULATED REMOVABLE POND COVER**SUMMARY AND BACKGROUND OF THE INVENTION**

Man-made, usually rectangular, settling ponds are used for holding sewage and industrial wastes. These ponds are usually covered by a large one-piece geomembrane which has gas and water collection systems and is usually not insulated. These pond covers are laid on-site and secured by an anchoring trench. Because of their size, they are difficult to remove.

The present invention is an insulated removable pond cover which is made in sections which are held together by means of a series of grommets and cables. The cables are secured to a series of concrete deadheads.

The primary advantage of the invention is that it is removable, thus allowing the pond to be dredged and re-used. Another advantage is that the insulation results in heat being retained in the pond, thus speeding biodegradation of organic material.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side detail view of two of the panels.

FIG. 2 is a top perspective view showing two full panels and parts of four other panels, starting from one edge of the pond cover on the left.

DESCRIPTION OF THE INVENTION

The pond cover comprises a plurality of generally rectangular casings or panel units 1 linked together. The number and size of the casings 1 will vary depending upon the size of the pond to be covered, and the casings 1 are arranged in as many rows as are needed. Generally each casing 1 will be about seven and one-half feet wide and approximately forty feet long. Each casing 1 is filled with a layer of insulation 3 and then sealed at either end and along either side by a fusion weld 4. The casings 1 are made of geomembrane (a high density polyethylene material).

Adjacent casings 1 are linked together in overlapping spaced relationship by means of a grommet and cable

system. Each casing 1 is provided with a plurality of grommets 5 at either end and along either side, positioned outside of the welded area 4 so as not to break the seal. The total number of grommets 5 per casing 1 can vary. After the grommets 5 of adjacent casings 1 are lined up in vertical spaced relationship to each other, a cable 7 is passed through the openings of the grommets 5, is formed into a loop above the panels 1 and is secured in position by a cable clamp 11 attached to the cable 7 beneath the casings 1. A heavy tie-down cable 12 is then passed through all the loops of the cables 7 in the row and is secured at either end to an anchor post such as a concrete deadhead, in a conventional manner such as tying the cable 12 to a rod with a nut at either end and securing the cable 12 with a cable clamp. If wind getting underneath the cover is a problem, additional cables can be passed through the cable loops 7 perpendicular to cable 12 at either end and in the middle of the series of casings 1.

Once the pond cover has been secured in position, it will float upon the liquid in the pond, and it can be removed when the pond needs to be dredged.

I claim:

1. A pond cover comprising a plurality of panel units linked together; means for insulating said pond cover, said insulating means comprising a generally rectangular layer of insulation wherein each of said panel units is filled internally with said layer of insulation and is sealed at either end and along either side by welding; and means for linking said panel units together and securing said pond cover in position on a pond, said linking means comprising grommets disposed along said sealed end of each of said panel units, and each of said panel units is linked in vertical spaced relationship to an adjacent panel unit by at least one cable disposed through said vertical spaced grommets and formed into a loop projecting above said panel units, and said securing means including a second cable which is disposed through the entire row of said loops and is anchored at either of its end to an anchoring means.

* * * * *